

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Victor D. Goeckner et al. Confirmation No. 7738
Serial No.: 10/541,338 Examiner: Ralis, Stephen J.
Filed: January 6, 2004 Art Unit: 3742
For: Power Circuitry for Beverage Apparatus

RESPONSE TO OFFICE ACTION

Honorable Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450
Sir:

Barnes & Thornburg Customer No: 23644 U.S. Patent and Trademark Office

The following remarks are in response to the 04 April 2007 non-final office action.

Claims 2-4, 11, 20, 26, 27 and 26-31 stand rejected over Bergmann et al (U.S. Patent No. 3,987,717) in view of Hirabayashi et al. (U.S. Patent No. 4,937,600). Bergmann et al is relied on for disclosure of heated beverage apparatus and Hirabayashi et al is relied on for disclosure of an apparatus for heating a roller to a constant temperature in an image forming apparatus such as an electrophotographic copying apparatus. Hirabayashi et al discloses a circuit for controlling the heating of the roller. The circuit is powered by domestic AC (110 V) or foreign AC (200 V).

The office action concludes at page 5 that

it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the temperature control functionality of the beverage heating apparatus of Bergmann et al. with the temperature control and foreign/domestic AC voltage monitoring control of Hirabayashi et al, since as evidenced by Herrick et al., providing the ability of a beverage heating apparatus to function independent of whether an AC voltage source is foreign or domestic will provide the apparatus to stably operate with a plurality of rated voltage power sources, thereby making the device internationally usable without the need of adapters, etc.

The rejection is in error because, modifying Bergmann et al. with the temperature control and foreign/domestic AC voltage monitoring control of Hirabayashi et al would not arrive at the subject matter of applicants' claims and because it would not have been obvious to modify

Bergmann et al. with the temperature control and foreign/domestic AC voltage monitoring control of Hirabayashi et al.

Independent claim 30 is directed to a beverage apparatus including a power supply having an input that couples to an AC voltage source, the power supply having a DC voltage output of substantially a predetermined value regardless of the AC voltage within the range of AC voltages. Hirabayashi et al. does not teach or suggest an apparatus that provides a DC voltage output of substantially a predetermined value regardless of the AC voltage within the range of AC voltages. In Hirabayashi et al. there is no power supply having a DC voltage output of substantially a predetermined value regardless of the AC voltage. Hirabayashi et al. has no power supply having a DC voltage. The office action at page 4 describes “Hirabayashi et al. teach a controller (CPU 3, 21 and heater control circuit 4, 33)” and incorrectly states “that is coupled directly to the DC voltage of the power supply (see Figure 27)....” As seen in Fig. 27 of Hirabayashi et al. (and as discussed at column 21, lines 36-65) control is provided by switching between set temperature T2 and T2’. There is no DC voltage source involved. Even assuming arguendo that there is a DC voltage source (and such is not conceded) the DC voltage output is not of a substantially predetermined value “regardless of the AC voltage...” as recited in applicants claims. In Hirabayashi et al.’s embodiments, there is no voltage output of substantially a predetermined value regardless of the AC voltage within the range of AC voltages. The voltage output is not regardless of the AC voltage since the AC voltage is sensed and switched to set to T2 and T2’ depending on the sensed voltage.

The office action at page 6 urges that “Hirabayashi et al. clearly teach a motor drive circuit (34) having a coupled DC power supply from the DC low voltage source (25).” This statement in the office action is incorrect since source 25 in Hirabayashi et al. is not a DC source and there is nothing that provides a DC voltage output of substantially a predetermined value regardless of the AC voltage. As discussed at columns 15 (lines 35-40) and 16 (lines 6-11) in Hirabayashi et al. the voltage source 25 and voltage discrimination circuit 24 are switched dependent on whether the AC supplied is 100 or 200 V. There is no DC voltage output of substantially a predetermined value regardless of the AC voltage in Hirabayashi et al. Accordingly, even if the control of Hirabayashi et al. were provided to modify Bergmann et al. as urged in the office action, the result would not arrive at the subject matter of claim 30.

Independent claim 31 is similar in that it requires “the power supply having a DC voltage output of substantially a predetermined value regardless of whether the input is coupled to the domestic AC voltage or the foreign AC voltage” (emphasis added) and thus claim 31 avoids the combination of Bergmann et al. with Hirabayashi et al. for at least the same reasons as claim 30.

The only other independent claim, claim 29, requires “coupling an input of the power supply directly to the supply voltage regardless of whether the supply voltage is the domestic AC voltage or the foreign AC voltage and providing a DC output from the power supply” (emphasis added) and avoids this prior art for substantially these same reasons.

As to whether it would have been obvious to modify Bergmann et al. with the temperature control and foreign/domestic AC voltage monitoring control of Hirabayashi et al. it is noted that, as stated at column 3, lines 40-44 of Hirabayashi et al. “[t]he surface temperature of the heating roller 19 is detected by a temperature detector (thermister) 7, and a control operation is performed to maintain the temperature constant.” Hirabayashi et al. requires close control of the temperature of the heated roller so as to ensure consistent image quality for the copies produced by the apparatus. This is the reason why CPU 21 is used to constantly control the AC power applied to heat the roller 19. Applicants’ claimed apparatus does not require the constant control provided by Hirabayashi et al. Applicants’ device adjusts the temperature of a volume of water to a desired temperature range and does not require constant control as described in Hirabayashi et al. For at least this reason, one of ordinary skill in the beverage apparatus art would not look to the photocopying art for control of a heater to heat water to a desired temperature range. Accordingly, it would not have been obvious to modify Bergmann et al. with the temperature control and foreign/domestic AC voltage monitoring control of Hirabayashi et al.

Herrick et al. (International Publication No. WO00/11914) is cited as evidence that a beverage heating apparatus may operate on domestic or foreign AC voltages. Herrick et al. discloses use of a DER (direct electrical resistance) heating cell for heating. Herrick et al. does not teach a heating element as recited in applicant’s claims and Herrick et al. does not teach or suggest the combination of a power supply, heating element and controller as recited in applicants’ claims. C does not make up for the above noted deficiencies in Bergmann et al. and Hirabayashi et al.

Claims 5-7, 16 and 28 stand rejected as obvious over Bergmann et al. and Hirabayashi et al. and Herrick et al. These claims are dependent, directly or indirectly, on one of independent claims 29-31 and avoid the prior art for at least the reasons noted above with respect to the rejection of claims 29-31. The office action urges that Bergmann et al. and Hirabayashi et al. are applied as in the rejection of claims 29 and 30 with Herrick et al. relied on for use of a solenoid and a conductance sensor. Herrick et al. is not relied on for what, as noted above, is missing from the combination of Bergmann et al. and Hirabayashi et al. and does not teach or suggest the deficiencies noted above in the combination of Bergmann et al. and Hirabayashi et al. Herrick et al.'s disclosure is directed to direct electrical heating (DER) and does not use a heating element as in Bergmann et al. and Hirabayashi et al. For at least this reason, Herrick et al. does not provide any teaching or suggestion of modification of the heating elements in Bergmann et al. and Hirabayashi et al.

Claims 7-12 and 21 stand rejected as obvious over Bergmann et al., Hirabayashi et al., Herrick et al. and Funk. Claims 7-12 and 21 are dependent, directly or indirectly, on one of independent claims 29-31. Funk is not cited for and does not make up for the deficiencies in the combination of Bergmann et al., Hirabayashi et al. and Herrick et al. as discussed above. Funk is relied on for disclosure of a valve, pump, shaft and sensor. Claims 7-12 and 21 avoid the prior art for at least the reasons noted above with respect to the rejection of claims 29-31.

Claim 13 stands rejected over Bergmann et al., Hirabayashi et al., Herrick et al. and Greenwald (U.S. Publication No. 2002/0130137). Claim 13 is dependent (indirectly) on claim 30. Greenwald is cited for pre-heated reservoir tank and sensor. Greenwald is not cited for and does not make up for the deficiencies in the combination of Bergmann et al., Hirabayashi et al., Herrick et al. as discussed above. Claim 13 avoids the prior art for at least the reasons noted above with respect to the rejection of claims 29-31.

Claim 13 stands rejected over Bergmann et al., Hirabayashi et al., Herrick et al. Funk and Greenwald (U.S. Publication No. 2002/0130137). Claim 13 is dependent from claim 11 which depends on claim 30. Greenwald again is cited for pre-heated reservoir tank and sensor. Greenwald is not cited for and does not make up for the deficiencies in the combination of Bergmann et al., Hirabayashi et al., Herrick et al. and Funk as discussed above with respect to the rejection of claim 11. Claim 13 avoids the prior art for at least the reasons noted above with respect to the rejection of claims 11 and 30.

Claims 14, 15 and 17-19 stand rejected as obvious over Bergmann et al., Hirabayashi et al., Herrick et al. and Liverani et al. Claims 14, 15 and 17-19 are dependent, directly or indirectly, on one of independent claims 29-31. Liverani et al. is not cited for and does not make up for the deficiencies in the combination of Bergmann et al., Hirabayashi et al. and Herrick et al. as discussed above. Claims 14, 15 and 17-19 avoid the prior art for at least the reasons noted above with respect to the rejection of claims 29-31.

Claims 14, 15 and 17-19 stand rejected as obvious over Bergmann et al., Hirabayashi et al., Herrick et al., Funk and Liverani et al. Claims 14, 15 and 17-19 are dependent, directly or indirectly, on one of independent claims 29-31. Liverani et al. is not cited for and does not make up for the deficiencies in the combination of Bergmann et al., Hirabayashi et al., Herrick et al. and Funk as discussed above. Claims 14, 15 and 17-19 avoid the prior art for at least the reasons noted above with respect to the rejection of claims 29-31.

Claims 22-24 stand rejected as obvious over Bergmann et al., Hirabayashi et al., Herrick et al. and Jarocki et al. Claims 22-24 are dependent, directly or indirectly, on one of independent claims 29-31. Jarocki et al. is not cited for and does not make up for the deficiencies in the combination of Bergmann et al., Hirabayashi et al. and Herrick et al. as discussed above. Claims 22-24 avoid the prior art for at least the reasons noted above with respect to the rejection of claims 29-31.

For all of the above reasons, withdrawal of the rejections is appropriate and is, respectfully, solicited. The application with claims 2-31 is in condition for allowance and such action is, respectfully, requested.

If there is any issue remaining to be resolved, the examiner is invited to telephone the undersigned so that resolution can be promptly effected.

It is requested that, if necessary to effect a timely response, this paper be considered as a Petition for an Extension of Time sufficient to effect a timely response with the fee for such extensions and shortages in other fees, being charged, or any overpayment in fees being credited, to the Account of Barnes & Thornburg, Deposit Account No. 10-0435 (27726-99611).

Respectfully submitted,

BARNES & THORNBURG LLP

A handwritten signature in cursive script, appearing to read "Richard B. Lazarus".

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